ABSTRACT

Neonatal sepsis ranks third as a leading cause of infant mortality worldwide. In Kenya it accounts for 60% of the current neonatal mortality rate which stands at 31 deaths per 1000 live births. Despite considerable burden of disease, few data exist on precise incidence and aetiology of early onset neonatal sepsis in sub-Saharan Africa. This study addresses this gap. The objective was to determine the proportion of newborns at risk of neonatal sepsis using two clinical screening tools, prevalence and aetiology of early-onset sepsis in at risk term newborns in the newborn units of Homabay and Kisii referral hospital, Western Kenya. All at risk well newborns aged 0 – 72 hours old and their mothers at the in the newborn units formed the baseline population. Structured questionnaires were administered to consenting mothers in the post natal wards that assessed presence of maternal risk factors and presence of neonatal clinical features suggestive of sepsis. Newborns at risk of sepsis were further evaluated for blood culture and sensitivity and classified as proven (positive blood culture), probable sepsis) and no sepsis. Newborns were followed on day three and day seven post delivery. Those discharged during this time period were followed using telephone interviews. Univariate analysis was used for categorical variables and descriptive statistics for continuous or discrete variables. Bivariate analysis was used to investigate associations between neonatal sepsis and socio demographic variables. Between June 2015 and January 2016, 449 term newborns in the post natal wards were screened for sepsis risk and 256(57.1%) found to be at risk. Of the 256 at risk, proven sepsis prevalence was 5.7% while 81.3% had probable sepsis, 13.29% had no sepsis. Pathogens identified were mostl gram negative bacteria, gram positive isolate were *Staphylococcus Aureas*. The gram-negative bacteria isolated were *Escherichia coli, Enterobacter spp, Klebsiella spp and a fungus of yeast spp*. Gentamicin was started for all babies while awaiting results. Those with probable sepsis continued treatment up to five days depending on clinical assessment on day three and proven sepsis group for seven days. Out of 223 neonates followed overall, 97.83% were alive and 2.17% died (all of whom had probable sepsis) and 10.8% were lost to follow up. These data indicate that there is urgent need to test other biomarkers in these limited settings in relation to blood cultures that was used to relate with clinical features that were used by the clinicians to determine neonates at risk of sepsis that which formed the diagnosis and treatment.